SonoPath
Clinical Sonography & Telecytology
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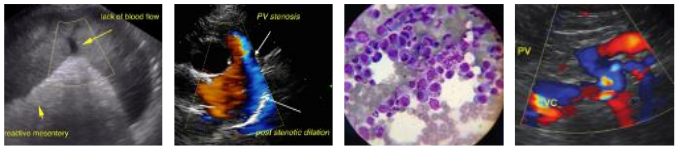

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT
Cooper Kelsey

SPECIES
Canine

BREED
Whippet

SEX
Male Neutered

AGE
14 years

WEIGHT
32.8lbs; 14.9kgs

INTERPRETED BY
Maggie Machen Lamy, DVM, DACVIM (Cardiology)

IMAGING PERFORMED BY
Melissa Weisman, DVM

HOSPITAL NAME
Minnesota Veterinary Ultrasound

REFERRING VET
Dr. Weisman

INVOICE
31846

DATE
7/13/23

PRESENTING CLINICAL SIGNS

History: Recheck echo. Less active, otherwise doing well. Grade 4/6 heart murmur. BP: 135, 141, 120, 134, 135mmHg.
-Current medications: Trazodone 100mg: Give 1 1/2 to 2 tablets by mouth at least 1 hour prior to ultrasound appointment. Metronidazole 250mg. O> giving 1/2 tab by mouth ONCE daily for IBD. Tastes bitter. /mlt Budesonide 1mg: Give 1 Capsule by mouth every other day Tylosin Powder: Administer 1/8tsp sprinkled on food once daily
-Pertinent pervious echo findings (12/2022 MML): Moderate MR, stable moderate LHE. Continue Pimobendan recommended.

RADIOGRAPHIC FINDINGS *NOTE: Images submitted for supplemental cardiac information only.

Cardiomegaly. No obvious evidence of CHF.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. Severe eccentric mitral regurgitation with severe left atrial dilation. Normal MR velocity. Moderately increased LV diameter with adequate myocardial function. The tricuspid valve appears normal with trace tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Normal pulmonic and aortic outflow velocities with laminar flow. No aortic or no pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

CARDIAC CHART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	5.7	2.0	NM	2.1	40	70	NM
CANINE CARDIAC PARAMETERS	**HR** (BPM)	**AV VMAX** (m/s)	**PV MAX** (m/s)	**BODY WEIGHT** (kg)	**LA** 2D short axis Base view (cm)	**LVIDd** Avg; 2D and m-mode short axis (cm)	**LVIDs** Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	NM	1.2	1.3	14.9	4.1	4.4	2.7
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
**Note: All measurements based upon multi-modal images and methods. An average value is reported.*				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
Adapted from June Boon, Veterinary Echocardiography, 1998				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
Hansson et al, Vet Rad and Ultrasound 2002				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

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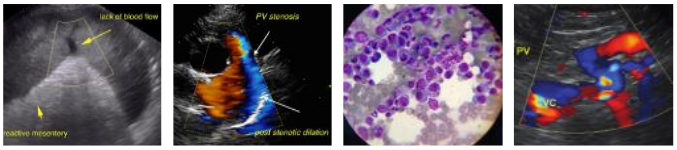

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INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Chronic degenerative valve disease persists with evidence of progression. Severe mitral regurgitation has increased quantitatively the left heart is progressively dilated. The risk for spontaneous congestive heart failure is elevated going forward. A small tricuspid leak has developed; however, no pulmonary hypertension is appreciated. No additional issues are identified.

Even without significant respiratory changes, it is reasonable to initiate an ACE-I and Spironolactone at this time as below given apparent progression. Prognosis is guarded long term (late B2), and patient will always be at risk for recurrent CHF, development of arrhythmias/LA tear, syncope and/or sudden death in the future.

Intermittent breathing changes are unlikely to be related particularly without obvious CHF on films; however, if any persistent change in symptom is noted repeat CXR and/or a Lasix trial are strongly recommended.

Omega fatty acid supplementation and mild salt restriction remain recommended. Monitor for development of a cough, labored breathing, exercise intolerance or collapse episodes. Serial monitoring of SRRs is recommended as the best way to screen for progression towards CHF at home.

Elective anesthesia is not advised, as there is high risk for complication. Should you elect to proceed, cardiac protective drug choices (opioid/benzodiazepine premedication, propofol or alfaxalone induction, iso or sevoflurane gas) are recommended. Pre-oxygenate for 5-10 minutes prior to induction and recover in O2 cage. Monitor for arrhythmias, hypotension, and hypoxia both intra and post-operatively and intervene as necessary. Moderate IV fluid restriction is recommended to avoid fluid overload, while considering comorbidities, hydration status, BP, etc. Avoid heart rate stimulating drugs such as atropine unless clinically indicated.

PLAN

Continue Pimobendan as prescribed. Institute ACEI 0.5mg/kg PO q12h. Institute spironolactone 1-2mg/kg PO q12h. Consider hydrocodone if needed for QOL.

Recommend conservative monitoring with a recheck echocardiogram in 6 months to screen for progression, sooner if clinical signs arise.

IMAGES

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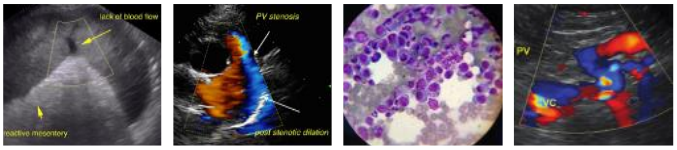

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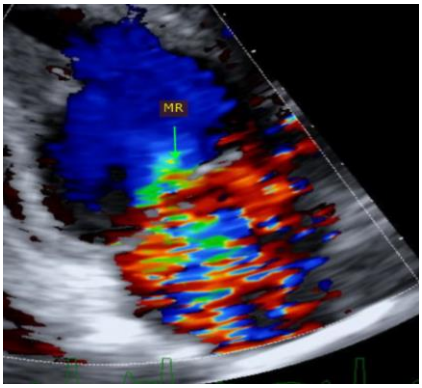

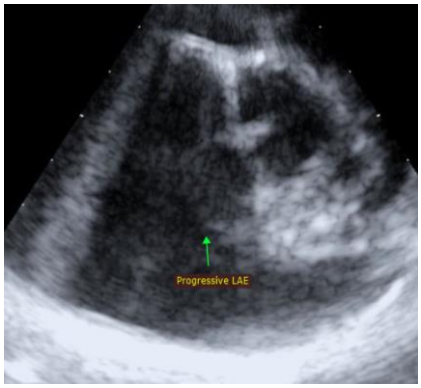

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

Maggie Machen Lamy, DVM
Diplomate of the American College of Veterinary Internal Medicine (Cardiology)
info@sonopath.com